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ABSTRACT

There are three valuable types of computer software needed by the professional researcher--word processing, spreadsheet, and database management. In general, these packages are required for the effective operation of offices; however, researchers may have special needs which can only be met with more specialized software. Recently, word processing software has demonstrated new capabilities that will appeal to researchers: (1) online documentation; (2) help screen availability; (3) easy formatting capabilities; (4) simple ways to move and store text; (5) window screens permitting multiple functions; (6) total recall of accidentally deleted text; and (7) mail merging and sorting for multiple mailings. Spreadsheets are a valuable tool for enrollment projections, budget planning and maintenance, basic statistics, and, in conjunction with other programs, for graphically displaying results. When integrated with word processing, these packages can help produce updated reports with minimal retyping. Database management software has some important characteristics that allow the user to custom design forms and report formats; in addition, information can be stored and retrieved easily. An effective program should reduce the overall redundancy of data entry and allow for additional variables to be added in the future. Professional researchers should recognize the utility of microcomputers and initiate their use as a personal tool. (JB)

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MICROCOMPUTERS IN THE RESEARCH OFFICE

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Capsule: This article discusses some of the basic microcomputer programs that researchers can put to use in their day-to-day activities. The review is meant to provide a quick and useful introduction to software which is readily available for most microcomputers.

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MICROCOMPUTERS IN THE RESEARCH OFFICE

The relentless march of office automation has arrived on many campuses. The degree of successful implementation varies at each institution and within its many components. Oftentimes machinery is added to an operation with little thought given to its daily use. Sometimes the necessary software is a hidden treasure not available to mere mortals. More often the staff training necessary to effectively utilize computers in the office is inadequate or missing.

PURPOSE

The purpose of this article is to provide professional researchers with an outline of some of the microcomputing tools which can be used in their offices. This review is intended to give the reader a quick and useful introduction to software which is readily available for most microcomputers. It is not meant to be a complete review and evaluation of potential computer packages. That information can be more readily obtained from industry journals, software reviews, and the ever-present vendors.

TYPES OF PACKAGES

There are three valuable types of software needed by the professional researcher. In general, these packages are required for most effectively operating offices although researchers will have special needs which can only be met with more specialized software. The types of software needed are word processing, spreadsheet, and database management.

Word Processing

Production of reports is the major clerical activity in most research offices. Word processing is a powerful tool on the microcomputer for drafting, preparing, editing, and producing text. Many packages were developed specifically as secretarial tools to produce finished reports from the scratchings of researchers. More recently, word processing software has evolved to a point where even research professionals can tap into its capabilities. Some of the features of the new generation of software are:

1. on-line documentation,
2. help screen availability,
3. easy formatting capabilities,
4. simple ways to move and store text,
5. window screens permitting multiple functions,
6. total recall of accidently deleted text,
7. mail merging and sorting for multiple mailings.

Instead of retyping from initial rough drafts, clerical personnel would be able to perform computerized editing and output formatting. The savings in time would be substantial.

For the non-typing researcher, micro-based word processing would still have several other benefits. Text from reports could be stored electronically and saved for reference or future production. More importantly, commonly issued reports could be stored and then changed to reflect the latest figures without retyping the entire document. Documents could be formatted and reformatted in such a manner as to enhance their readability without additional typing. Word processing is a vital link in successful office operations.

Spreadsheets

One of the major success stories in the microcomputing world concerns the introduction of spreadsheet analysis programs. These packages were introduced as a way to make projections based on a variety of input variables. In 1978, Daniel Bricklin developed Visicalc as a way of reducing the tedium of doing spreadsheet analyses by hand. This action thrust the microcomputer into the forefront of spreadsheet applications.

In a typical spreadsheet program, there are thousands of cells formed as hundreds of rows and columns are used to create a giant matrix. Rows and columns can house words, formulae, calculations, or numbers. Various interactions can be planned so that "what if" situations can be setup. The package can be used for a variety of activities where automatic adjustments need to be made.

College researchers have a variety of uses for spreadsheet programs. It is a valuable tool for enrollment projections, budget planning and maintenance, basic statistics, and, in conjunction with other programs, for graphically displaying results. At Jefferson Community College Southwest in Louisville, Kentucky, a spreadsheet program has been used to keep the campus's budget, to record bookstore transactions, and to assist in the registration of students. When integrated with word processing, the package can help produce updated reports with minimal retyping. Again, this is an excellent aid for both research professionals and support staff.

Data Base Management

Have you ever been asked to provide an annotated list of all studies done on student attrition, faculty perceptions, academic success, and/or a variety of other subjects? It can often be a tedious, time consuming project just to retrieve past studies. Creating annotated lists takes even longer. One way to meet this challenge is to maintain a computerized data base of research projects. Data base management software provides a relatively simple way of storing and recalling important data.

Generally, data base management software has some important characteristics:

1. The user can custom design the form for a specific job or file.
2. Data checking for input type and length can be activated.
3. It can perform simple calculations as in inventory management.
4. Reports can be generated in a user specified format.
5. The user can review specific or category files.
6. Information can be easily sorted.

With a data base management program, you can do the applications that you may have previously handled competely with index cards, paper forms, ledger cards, or notebooks. An effective program should reduce the overall redundancy of data entry and allow for additional variables to be added in the future. Although it can't completely replace your paper files, this type of software can assist you in more effectively managing and using information.

Conclusion

The software reviewed above is only a starting point. A variety of software packages exist which could be very useful for researchers. Programs which integrate word processing, spreadsheets, and data base

management are being introduced. This type of package reduces production time and duplication of effort. Successful managers in a variety of professional areas have recognized the utility of microcomputers and have initiated their use as a personal tool. This is the type of involvement that professional researchers should consider in an effort to improve the overall effectiveness of their operations.